Environment, Epidemics and Power in Early Medieval China

-Epidemics and Authority's strategies in the Northern and Southern Dynasties of Early Medieval China-

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I'd like to dedicate this article to Emeritus Prof. Donald Holzman who had taught me the Early Medieval Chinese History in E.H.E.S.S. of Paris, in 1990-1992. This article was presented 2 times. Firstly it was in Winter Conference of Chinese History Society, 12th-14th February 2007 in Mokpo, Korea in Korean language. Secondly it was in the Conference of Saanxi Normal University in Xian of China, 21st-23th Oct. 2010 in English.

Introducion

In the course of my research on epidemic in early Korean history, it became increasingly apparent that I first needed to understand developments in contemporary China. I believe that the patterns of outbreak are interrelated if not directly related - for example, the smallpox epidemic that broke out in Korea was transmitted by the army sent by the Tang emperor to support the Kingdom of Silla's bid to unify the peninsula. My interest in China's history of epidemics only deepened, especially as I learned of successive virulent outbreaks that killed millions during Emperor Gaozu(高祖:599-635)'s reign.1) As I began to focus on the influence of political and social upheaval on infectious disease outbreaks – such as the transition from the late Sui Dynasty to early Tang Dynasty - what emerged was the relatively greater frequency of outbreaks during the Northern and Southern Dynasties, which preceded Sui China.2) For example, there were 19 recorded outbreaks during the 289-year span of Tang China, compared to six outbreaks in the 59-year history of the Liu Song(劉宋:420-479) Dynasty, averaging out to a major epidemic every ten years, compared

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1) Hyunsook Lee, "High Fever Epidemic, guzhengbing(骨蒸病) in Early Tang dynasty (唐高祖代骨蒸病的 流行)", proceeding paper in 2005 Autumn Conference of Chinese History Society in Korea.

2) Hyunsook Lee, "Environment, Epidemic and Power(環境, 疫病, 權力:中國南北朝時代疫病的流行)", proceeding paper in 2007 Winter Conference of Chinese History Society in Korea.

to every eighteen years in Tang China.

The Northern and Southern Dynasties period is distinguished by its political disunity and turbulence, interspersed with military conflicts. Indeed, war can be identified as a major factor in the spread of each outbreak during this period.

One of the deadliest pandemics in human history, the Black Death had the most far-reaching consequences as well. Also known as the Great Pestilence, the pandemic cut a wide swath across 14th century Europe. It is widely believed that the plague was introduced to Western Europe by Mongolian armies that laid siege to the city of Caffa in the Crimean peninsulain 1346. Genovese traders holed up in Caffa during the siege fled to Italy, unwittingly carrying with them the plague to Europe where it spread with terrifying speed. A pandemic that would decimate medieval Europe’s population and utterly transform its political, religious, economic and social structures had its crucible in war. The mere existence of a pathogen in a human population does not necessarily lead to an epidemic. Rather, it is a confluence of special circumstances such as rapid climate change, famine or war or some other significant environmental change that hastens the spread of an infectious disease to epidemic or pandemic proportions. This is because such external conditions are inextricably linked to the strength of the immune systems of the given population. When a pathogen is introduced to a society that has had no previous contact and therefore lacks immunity, or if immune systems are weakened by malnourishment, it has the potential to spread as a pestilent outbreak (McNeil 1976). Thus, external factors such as war and famine are direct causes of epidemics.

The Northern and Southern Dynasties were also characterized by large-scale migrations. Nomadic groups that had occupied Northern China started moving southward to the city of Nanjing on the Yangtze River, which the Jin Dynasty established as the new capital city. Another major factor behind migration to the south was climate change - since BCE 29 (Western Han China 後漢), the region experienced a gradual cooling which continued into the Little Ice Age (Deng Tietao et al. 2006:35).3) It is recorded that there was a sizeable population of elephants native to China's central district during the Han Dynasty, but by the Jin Dynasty and Northern and Southern Dynasties, the elephants had migrated south to the Huai River, Yangtze River delta and Hunan region (Mark Elvin 2006). Just as climate change forced elephants southward to seek sub-tropical climes, so did various peoples move south. Nomadic tribes from far north migrated southward, while the Han Chinese of Northern China migrated to the Yangtze River delta. Such migration flows were precipitated by warfare as groups seeking more favorable environments inevitably clashed with existing populations. Warfare was the ultimate arbitrator of which group would claim resource-rich territories as home.

A sudden drop in temperature causes tremendous physical hardship in humans. Until the human body's circadian rhythm adjusts to changes in the climate, it undergoes tremendous physical stress. In its

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3) According to Boing Ma (馬白英), it could be pestilence.

weakened state, the body is more vulnerable to infections while repeated infections can lead to death. The societal impact and cost of a widespread outbreak of disease is enormous, prompting ruling authorities to prepare counter-measures to head off crisis and inspiring advances in medicine.

These were not lost on Zhang Zhongjing (張仲景)of the Later Han dynasty, whose seminal work ShangHanLun(傷寒論Treatise on Cold Injury) is the oldest clinical textbook in the world, and one of four required classical texts for the study of Chinese traditional medicine. Shang Han means “high fever epidemic.” Zhang wrote in his preface: “My own clan used to be a large one, originally 200 strong. However, after the year 196, two-thirds of my relatives had died in less than ten years; seven out of ten of them died of high fever.” So it was that in cataloguing the most effective treatments that Zhang wrote the compendium. It is estimated that in his day, the death rate for victims of the high fever was as high as 40 to 50 percent, indicating that the population had little prior exposure and was thus defenseless.

The primary objective of this paper is to analyze patterns in infectious disease outbreaks in ancient China, especially during the Northern and Southern Dynasties and during the transition into the Sui Dynasty. While existing studies merely list such occurrences, I intend to portray such outbreaks as concretely as possible, exploring their causes and effects. In doing so, I draw a link between environmental changes in this period of Chinese history, and the plagues that resulted. My ultimate purpose is to examine how recurring epidemics shaped the power dynamics of the time.

1. Meaning and Concept of Epidemic in ancient China

The term “epidemic” is generally translated from ancient Chinese literature: “yì” (疫:epidemic disease), “lì” (癘:plague) and “yiji” (疫疾) or liyi (疫癘). Records from as early the Eastern Han Dynasty (25-220 CE) refer to a contagious disease that affected “everybody”. In his classic Nihonigakushi(日本醫學史, History of Japanese Medicine) published in 1904, Fujikawa Yu (富士川游), a physician trained in Western medicine, catalogued and even coining terms: “Afflictions such as ulcers and boils widespread among the Corvée (徭役) are called “yibing (疫病)”. The term would be equivalent to the Greek ‘epidemie’, but the literal meaning is closer to ‘people’s disease’. In today’s terms, the diseases he cites would be among the more virulent contagious diseases. For the purposes of this paper, the term “epidemic” will refer to the diseases encountered in ancient Chinese history.

However, it is important to keep in mind that surviving records documenting epidemics in Chinese history have a distinctly political nature. It is not a stretch to posit that popular discontent was one reason for the spread of contagious diseases in pre-modern China. This theory is consistent with Confucian political philosophy, which ascribed unnatural phenomena or disturbances on earth to illegitimate or unfit rulers; in other words, human activity had a direct bearing on astrology. The sudden death of a ruler and his family or an epidemic ravaging his population would be seen as a judgment of heaven. Not surprisingly, authorities sought to deny or destroy evidence of disease outbreaks. In truth, most epidemics were precipitated by famine, which weakened immune systems, but the connection between famine and susceptibility to disease was not readily apparent at the time. It was more shocking - and perceived as more common − for strong, able-bodied people to die within days of contracting a disease than to waste away from starvation. In East Asia, sudden death by disease carried the stigma of being cursed by heaven.

The politicized nature of the historical record pertaining to disease and epidemics is especially evident when viewing transitional periods. The end of a dynasty was inevitably marked by various catastrophes and disease outbreaks; descriptions abound of famine and epidemics during the last emperor of a dynasty.

There are two possible interpretations for this observation. The first is causal: catastrophe and disease may have been among the key factors for the overthrow of a ruler or administration. The second is political: historians may have exaggerated the scope or degree of disaster and disease to comment on the moral authority or legitimacy (or lack thereof) of the ruling power. More than likely, the truth is a combination of the two views. Calamities and diseases did indeed hasten the end of a ruler or empire, and succeeding rulers trumpeted the failures and disasters of the past reign to bolster their own.

Chinese historical records are not the only documents to shed light on the spread of epidemics in ancient East Asia. Comparing contemporary records from Korea, China and Japan, more records have survived from Japan, followed by China, then Korea. Recorded Chinese history is narrative of the past, not observations of contemporary developments. Historians crafting an authoritative account of previous administrations or reigns were confronted with a multitude of records, and their primary consideration was sorting which to include, which to omit. It would not have been possible to include all existing records of diseases from all regions. On top of that, historians did not have a completely free hand in their choice of what to include or omit.

As mentioned before, authorities had a vested interest in destroying records of epidemics that befell their own reign, but epidemics that plagued past administrations or dynasties were deliberately highlighted. Graphic mention of epidemics suggested a subtext of divine judgment – that the previous administration was being punished by plague or pestilence and needed to be removed from power. Alternately, rulers seeking to prop up their own reigns either omitted mentions of epidemics entirely, or emphasized famine as the cause for their spread. The classic example of this type of propaganda comes from historical records of the Tang Dynasty. When the Empress Regnant Wu Zetsian (武測天:624-705) effectively took power, heavy casualties suffered from an on-going epidemic were characterized in the historical record as mass starvation (Lee 2002:72). It was only after her death that the record was corrected to attribute the deaths to disease. In examining existing data on disease and epidemics in Chinese history, it is important to consider what the prevailing political climate or beliefs were, or the political leanings of historians from latter periods. Revisionism was not uncommon. Indeed, this sort of “political” disease was as rampant as any corporeal disease.

2. Causes of Epidemic

To aid the reader in understanding epidemic outbreaks during the Northern and Southern Dynasties, I catalogued outbreaks recorded during the preceding Jin Dynasty and Northern and Southern Dynasties from the table of Deng’s work (Deng Tietao et al. 2006). However, it is also apparent from the timeline of outbreaks that they frequently spread to neighboring regions. Epidemics broke out like clockwork every year in neighboring districts. When outbreaks lessened in frequency to every two to three years, the disease spread geographically in concentric rings.

Of course, it is entirely possible that the historical record may be incomplete and may not account for every outbreak. Such uncertainty casts doubt on any rigorous statistical survey of infectious disease outbreaks. Furthermore, records do not necessarily specify whether the epidemic spread throughout the region or was limited to the capital or another locale. Existing records from this period suffer in accuracy and precision.

A-① Eastern Jin Dynasty : 274 CE , the 11th month of the year 275, the spring of 282, the 11th month of 292, the fall of 296 (famine and pestilence reported in Guanzhong in the eighth month), the fifth month of 297 (in Qin秦 and Yong雍 two prefectures), the fifth month of 310(in the region of Qinzhou 秦州 and Yongzhou雍州 famine and epidemic till to autumn), 312 CE.

② Eastern Jin Dynasty : the 11th month of 322 CE, the fifth month of 330, 350, 351, 352, the fifth month of 353, the winter of 369, 379 CE in Shaanxi province, the fifth month of 380, the tenth month of 405 (red pox, 赤班瘡), the spring of 411 CE.

③ Southern Dynasty: the fifth month of 427 in the capital, 433 due to war, the sixth month of 447in the capital, 451 in Jiangsu , the fourth month of 457 in the capital, 460 in the capital, 482 (in Wu county吳郡), 502 due to war (Yingcheng, Jiangling 江陵 and Jingzhou in modern Hubei 湖北), 546 (capital area), 548, 549 (in Yangshou揚州, Xuzhou 徐州, Yanzhou兗州, Yuzhou豫州), 572 CE.

④ Northern Dynasty: the seventh month of 397, 423 (Henan 河南), sixth month of 459 (during war), 468, the fourth month of 501 in Pingyang county (平陽郡), the fourth month of 510 in Pingyang , 529 in Shaanxi, 565 in Henan, 575 CE in the capital.

Of the epidemics listed above, at least three (Southern Dynasty year 433 and 502, and Northern Dynasty year 459) broke out in the midst of war. As noted in A-③, in 433 CE, soldiers under Dao Yanzhi defending Jiangsu from an attack from by the Northern Wei were afflicted with eye infections; a deadlier outbreak forced their retreat to Pengcheng by sea. The troops set the contaminated ships on fire and returned by foot.[4] This incident illustrates how an outbreak could bring an end to war.

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[4] *Nanshi* vol. 25, Biographies vol. 15, “王懿 … 到彥之先有目疾, 至是大動 ;

In another example (A-④), deadly outbreaks attributed to “miasma” recorded in 459 (Northern Dynasty) changed the course of battle between the Tuyuhun empire and Northern Wei forces led by General Yangping and Wang Xincheng fighting for Emperor Wenchengdi . In the sixth month of 459 CE, the Northern Wei army was fast closing in on Tuyuhun ruler Murong Shiyin, but by the ninth month the army was forced to retreat. Miasma refers to the fetid, noxious air characteristic of subtropical regions; more likely, the dispatched troops were infected by malaria and other waterborne diseases endemic to the sub-tropics. A large population living in open encampments for lengthy campaigns, the army proved to be fertile ground for infectious diseases (Lee 2003). However, there is also evidence that the army was not entirely defenseless, and that out of necessity the army had developed medical protocols for the field.

The epidemic of 502 CE unfolded during a particularly brutal military operation led by Liang Wudi (Emperor Wu of Liang) against the city of Yingcheng during the Southern Qi kingdom (479-502 CE). At the beginning of the siege the city had an estimated 10 million residents, but an epidemic wiped out 70 to 80 percent of the population. Storming the city’s gates, Liang quickly established control and captured public sentiment by ordering coffins for the corpses − such was the magnitude of the decimation. In those days, military dominance meant capturing the capital city, with the most popular

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且將士疾疫，乃引兵自淸入濟. 南至歷城，焚舟棄甲，步趨彭城.”

strategy being a siege, while cities defended themselves by setting aside sufficient food and provisions.[5] When stores were depleted, city residents resorted to cannibalism – in this case, an estimated 50 -60 percent of the population were cannibals.[6]

Annual recurrences of the same disease within the same or neighboring region were recorded three times in the Jin Dynasty, twice during the Eastern Jin Dynasty and twice in the Southern Dynasty; however, no such pattern can be found in the Northern Dynasty. At the risk of oversimplification, it helps to understand epidemics during the Northern and Southern Dynasty as follows: in the 103 years following the unification of China, there were eleven recorded outbreaks during the Jin Dynasty, but in six instances the outbreaks were the result of external attacks, and over time, the interval between outbreaks began to lengthen. In other words, the average interval in the Jin Dynasty was eleven years, increasing to seventeen years during the Eastern Jin Dynasty and nineteen during the Southern Dynasty. Also apparent is that over time the length of the outbreaks remained consistent at three to four years; outbreaks of the same type of disease indicated that the disease had gradually become endemic to the area, or that it was a pediatric disease.

As William McNeil wrote, when a highly virulent pathogen such as the plague or a pox virus encounters a human host population for the first time, the fatality rate among human hosts is so high that the pathogen's food chain is essentially interrupted, which is counterproductive to the pathogen. If the human population is unable to develop sufficient immunity to the pathogen and is completely decimated, the pathogen itself ultimately becomes extinct. From the pathogen's point of view, the ideal relationship is one in which the human host becomes just ill enough to pass along the infection to another human host but then recovers. This is exactly the case with endemic diseases or pediatric infections. For the pathogen, the ideal existence is not one in which it feasts on a human host population and destroys it upon initial exposure; perfect equilibrium is attained for the pathogen when it becomes so indigenized to the region that it has an inexhaustible supply of human hosts. (McNeil, 1976)

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[5] *Liangshu* vol.1, Wudi Chronicle vol.1, “初郢城之閉, 將佐文武, 男女口十餘萬人, 疾疫流腫, 死者十七八, 及城開, 高祖竝加隱卹其死者, 命給棺櫘.”

[6] *Nanshi* vol. 80, Biographies vol.70, “侯景 … 食稍盡, 人相食者十五六.”

However, a six-year or even two-year interval between recurring outbreaks of the same disease indicates that the disease is a relatively mild one; the fact that the intervals gradually increased suggests that the Chinese people had developed tolerance to the pathogen over time. Even if the type of outbreak varied, rotating among typhus, cholera, dysentery, waterborne diseases, pox, measles, skin rashes, etc., it would be hard to deny that pathogen and host were making progress in their long journey toward a more sustainable relationship.

What types of diseases were typical of this period? Few records exist to answer that question definitively. However, among the epidemics recorded during the Southern Dynasty listed in Section A-3, the term "red pox" or chiban chuang (赤斑瘡) occurs with notable frequency, which may be due to the fact that the term is used interchangeably with "smallpox". Thus, it would seem that the pox was the most prevalent affliction of the period, a supposition supported by reports that in 7th century Unified Silla, eruptive diseases had become a social problem, while in 8th century Japan, what was called "peapox (豌豆瘡)" claimed a large number of victims from 731 to 735 (William Farris 1995).

It is highly possible that the type of disease that could fell a healthy man in his thirties of young General Hulu Qiangju (斛律羌擧)was an eruptive disease displaying symptoms such as pustules and boils or tumors.[7] The fact that he used a bamboo to suck out the pustule would rule out smallpox, whose eruptions are characteristically pea-sized. He would not have needed anything as large as a bamboo tube for smallpox. Clearly, the eruptions must have large and painful enough to drive Hulu to such extreme measures, but there is little other information to clearly identify what type.

However, records of disease outbreaks of this time frequently mention virulent eruptions. Accounts of the siege of Ying cheng in 502 refer to "the spread of tumors". Notably, the primary focus of Liu Chuang tzu kuei yi fang(劉涓子鬼遺方), an encyclopedia of surgical medicine and techniques written by Gong Qing xuan(龔慶宣) of the Southern Qi Dynasty at the end of the fifth century, is to describe cures for eruptions, known in the text as carbuncle and cellulitis (癰疽, yong ju), a kind of tumors and incised wound (金瘡, jin chuang).[8]

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[7] *Beishi* vol.53, Biographies vol.41, "斛律羌擧, 太安人也. 世爲部落酋長, … 天平中, 除大都督後封密縣侯爲東夏州刺史 有疫疾, 刺匈竹箭吮之垂愈, 因怒創裂而卒."

[8] I used the English terms translated by Korea Institue of Oriental Medicine(

3. Common Infectious Diseases Afflicting Humans and Animals in the Northern Dynasty

In 258 CE, the Xianbei(鮮卑) tribe began migrating from Tukotu in Inner Mongolia to Heringe prefecture(和林格爾縣:now Huhehot). By 386 CE, Tuoba Gui(拓拔珪) had consolidated power around Pingcheng, Shanxi and Datong(大同) and founded the Northern Wei Dynasty, the first of the Northern Dynasties. He became the Emperor of Northern Wei Daowudi(北魏 道武帝, rg.386~409) The nomadic peoples who had occupied the region previously were forced to move westward to the border of the original Great Wall erected by Qin Shi Huang; by 439 CE the Tuoba Xianbei dominated all of Northern China beyond the Yellow River. Warfare and invasion forced the exodus of the Han Chinese elites from their native territory southward to the Yangtze River, precipitating the development of SouthernChina.

What kind of impact did such mass migration have on the spread of disease? Undoubtedly, populations were exposed to completely new diseases. In fact, the first infectious outbreaks to afflict the Tuoba Xianbei were diseases transmitted between humans and animals, collectively classified as anthropozoonosis:

B-① Autumn, the seventh month of the second year of Northern Wei –

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http://www.kiom.re.kr) in this article.

> the fatality rate for humans, horses and cows was estimated to be 50-60 percent··· by the ninth month, starvation had become rampant, ravaging an estimated 30,000 people.9)
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> ② Chao Chong(晁崇) was highly versatile and multitalented, considered to be an expert in astronomy and strategy. ··· In the fifth year of Northern Wei (CE 402), he pointed to the angles cast on his right by a halo around the moon and declared that where Chong enjoyed prosperity would soon become barren. The Emperor won the Yao Ping. The outbreak wiped out much of the area livestock, and 80% of wild deer as well.10)
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> ③ It was recorded in the first year of Emperor Xiaowen that "in the previous year, rinderpest wreaked complete devastation."11)

The outbreak cited in B-①, which occurred in the fall of 397 CE, eleven years after the founding of Northern Wei was a large-scale epidemic with a fatality rate of 50-60%. It claimed not only humans but horses and cattle. More than likely, the disease originated among animals and jumped to human hosts. In the ninth month of the year in the middle of the outbreak, Murong Lin, son of the founder of Later Yan, Murong Chui (rg. 384-396 CE), led an army of 30,000 starving soldiers to capture the Zhongshan, fanning the spread of the outbreak far north. Due to the outbreak, most cattle in the vicinity would have

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9) *Beishi*, vol.1, Wei Benji (魏本紀) vol.1"(道武帝 皇始二年) 秋七月時大疫, 人馬牛死者十五六... 九月賀驎飢窮率三萬餘人寇新市, 甲子晦帝進軍討之."

10) *Beishi* vol.89, Biographies vol. 77, "晁崇字子業, 遼東襄平人也. 善天文術數,···故天興五年月暈左角, 崇奏占爲角蟲將死. 帝旣剋姚平於柴壁, 以崇言之徵. 遂命諸軍焚車而反, 牛果大疫, 輿駕所乘巨犗數. 是歲天下牛死者十七八, 麋鹿亦多死."

11) *Beishi* vol.3. Wei Benji vol.3.

been destroyed; the outbreak's high toll on the human population suggests that starvation among area residents facilitated the spread of disease. In this case, the outbreak originated because of war, but the reverse holds true too – disease prompted war: the starving soldiers saw warfare and plunder as their only means of survival.

B-② refers to an outbreak of rinderpest in 402 CE in Northern Wei which forced the slaughter of 70 to 80% of area cattle. Though legend has it that Chao Chong was alerted to the infection among horned animals from a prophesy by Chao Chong, more than likely Chao Chong observed an unusually high rate of death among wild deer and correctly guessed from experience that it would spread to domesticated herds. The death rate among livestock was 50-60%; among deer, it was probably 20% higher.

4. New Epidemics in the Southern Dynasties

The total population of the Chinese Han (漢族) who migrated south of the Yangtze (江南) River from the end of the Western Jin dynasty to the early Eastern Jin period amounted to approximately 700,000 people (Jingwei Li and Zhaogeng Lin et al. 2000:170). In particular, during the Southern Song period, it is estimated that 1/6 of people living south of the Yangtze River were refugees who had moved south from the Northern China area. Eastern Jin placed its capital at Jiankang (健康, present Nanjing) downstream along the Yangtze, which stimulated the region's development. This area had countless lakes such as the Huai river(淮河) and the Lake Hong-ze (洪澤湖) and the Great Lake Tai-hu(太湖), and it was such a marshy swampland that it was long known as swampy place between Jinzhou and Yangzhou (荊揚沮洳地). The area climate was typical of a semi tropic region—humid summers with significant rain. The Han people, having come from the relatively dry and cold climate of Northern China, settled into an area with endemic diseases previously unencountered. Countless lives were lost as they tried to adapt to the new natural environment and the local endemic diseases. Most likely, the first infectious diseases they encountered were the various illnesses transmitted by mosquitos. Mosquito-borne infectious diseases include encephalitis, malaria, dengue fever and Elephantiasis (象皮病). Unlike the local natives the newly immigrated Han people probably had little to no immunity to these diseases, leading to many fatal victims.

After the Eastern Jin period, a new illness known as flaccidity of lower limbs Jiaoqi (脚氣) became known, as wells and directions for treatment or protection were recorded. According to the record, the disease first spread from the southwestern area gradually to the eastern river area, and once someone caught the disease he/she could not recover. Also, if it was not treated quickly, it would spread from the legs to the abdomen and lead to death.12) The reason why the disease name flaccidity of lower limbs, Jiaoqi, first appeared at this time was that they had not experienced it in Northern China. However,

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12) *Zhohou beiji fang* vol.3, “治寒熱諸瘧方 十六 … 治風毒脚弱痺滿上氣方第二十一 : 脚氣之病, 先起嶺南, 稍來江東, 得之無漸, … 不即治轉上入腹便發氣則殺人.”

according to the Tang scholar, the intelligentsia from Northern China often caught this disease jiaoqi.[13] I think it could be beriberi so far.

Among the traditional studies of beriberi (脚氣), it was noted that these Northern Chinese people, who enjoyed white rice, suffered from a similarly named disease stemming from a vitamin B1 deficiency (Lee, 1976:475). Of course, a vitamin B1 deficiency is a symptom of modern day beriberi, but it would appear that elephantiasis--a disease where a mosquito bites causes the lower body to swell like an elephant--was also called Beriberi. According to *Beiji Qian jin Yao fang*(備急千金要方, *Essential Prescriptions worth a Thousand in Gold for Every Emergency*) of Sun Simiao (孫思邈), whenever spring turned to summer in the eastern river and southwestern areas, the heat and humidity would rise in the mountains and forests, and the poison would be severe. If this came into contact with one's foot, miasma Beriberi or Miasma Jiaoqi (瘴毒脚氣) would develop.[14] Since the period of this 'summer' disease miasma Beriberi coincided with the mosquito breeding season, the people of that time probably thought that elephantiasis and the thiamine deficiency beriberi were of the same class.

Another tropical parasitic disease which afflicted these people was schistosomiasis ('snail fever').[15] For example, the sand lice (沙虱)

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13) *Beiji Qian jin Yao fang* vol.22, "風毒脚氣方 … 論風毒狀第一：… 此疾, 自永嘉南渡, 衣纓士人,多有遭者."

14) *Dong-I Bogam translated in Korean* (國譯東醫寶鑑) vol.4, foot(足部), Seoul:Pupin Munwhasa, 1999, p.779.

15) "A Lady from China's Past", *The National Geography* 145, May, 1974,

described in *Zhohou beiji fang* (肘後備急方, *Handbook of Prescriptions for Emergencies*) of Ge Hong (葛洪:283–343) appears to be a case of schistosomiasis. According to the record, when person bathes in a mountain stream, something like a larva not visible to the eye penetrates the skin and enters the body. If this is noticed quickly, a small grain-sized swelling and pain appears. After three days, the pain becomes more severe, and chills and a rash develop. If the larva enters the bones, it leads to death.16) This description of a disease caused by unseen bugs in water meaning that people were aware of schistosomiasis in the Eastern Jin period.

South of the Yangtze River, the traditional agricultural method was ‘slash and burn’ (火耕水耨) dry-field farming system where they would first burn the field, and then flood with water. However, with the introduction of wet-field farming system (深耕細作法) utilizing rice paddies with wet-field rice paddies (水田) that they were able to drastically increase their agricultural productivity. As the farmers switched from the tradition dry-field paddies (旱田) to wet-field rice paddies, their feet were immersed in water for extended periods of time and as such they developed new infectious diseases. These peasants of Northern Chinese descent with no natural immunity suffered greatly at first before they slowly adapted to these new

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p.663; McNeil, ibid, p.106.

16) *Zhohou beiji fang* vol.7, “治卒中沙虱毒方第六十三；山水間多有沙虱, 甚細略不可見, 人入水浴及以水澡浴, 此蟲在水中, 著人身, 及陰天雨行草中, 亦著人便鑽入皮裏. 其診法, 初得之皮上, 正赤如小豆黍米粟粒, 以手摩赤, 上痛如刺. 三日之後, 令百節强疼痛, 寒熱赤上發瘡. 此蟲漸入至骨則殺人.”

diseases. In the early stages of the epidemic, entire families were devastated and the fatality rate appears to have been high.

Looking at several Southern Dynasty epidemic outbreaks, one can see how the spread of the disease within a single household or a single village would lead to mass deaths. There were a number of instances where the dead could not even be properly buried and were simply neglected. This is supported by the fact that a son is described as being filial and righteous for properly burying his family members who died from documents, as can be seen in the following records.

> C-① Wu Kui (吳逵) was from Wuxing (吳興) in Wucheng (烏程). With famine resulting from a lean year, successive epidemics have broken out and 13 of his close family members died, including his parents, older brother, and older brother's wife. The disease also left Kui(逵) indisposed, so the neighboring villagers covered the dead bodies with reed mats and buried them beside the village. His entire family died; the only survivors were he and his wife. Their house only had its four standing walls, and when winter came they had nothing to wear or eat. During the daytime he worked as a farm laborer, and at night he cut wood and made bricks. Truly he was not lazy in the least. If he met a tiger at night, the tiger would immediately go a different way to avoid him. Within a year, he made seven graves and 13 coffins, and his neighbors were amazed.[17]
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> ② Fan Shusun (范叔孫) was from Wu (吳) county in Qiantang (錢唐). Even

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17) *Songshu* vol.91 Biographies vol.51, "吳逵, 吳興烏程人也。經荒饑饉, 系以疾疫, 父母兄弟嫂及群從小功之親, 男女死者十三人. 逵時病困, 鄰里以葦席裹之, 埋於村側.既而逵疾得瘳, 親屬皆盡, 唯逵夫妻獲全. 家徒壁立, 冬無被□, 晝則庸賃, 夜則伐木燒磚, 此誠無有懈倦。逵夜行遇虎, 虎輒下道避之. 期年中, 成七墓, 葬十三棺. 鄰里嘉其志義."

when he was young, his character was virtuous, and during critical times he was very helpful. In the same village was Fan Faxian(范法先), who has seven family members including this parents and siblings all died together due to an epidemic. Only Faxian survived, but he also fell critically ill after several days had passed he was unable to gather the corpses and perform burial rites. Fan Shusun prepared all of the funeral items and buried them himself. In the same village Shi Yuanfu(施淵夫) came ill and even though his parents died, he was unable to bury them. Also, the neighbor Fan Miao (范苗)'s father and son both died, and Wei Jingzong (危敬宗)'s family had six people who fell sick with two of them dying. The relatives and neighbors were afraid and scared to tend the sick, but Shusun performed the funerals and took care of the sick people so they were able to recover. The villagers were impressed by his righteous actions and praised his name. Around 454-456, they gave him the rank of General but he would not receive it.[18]

③ Gu Xianzhi (顧憲之), whose pen name was a Shisi (士思), came from Wu county (吳郡) in the Wu region. When Southern Ji (南濟) Emperor Gao (高帝:rg 479-482) ascended to the throne, he was given Hengyang neishi (衡陽內史) government post. Before this, almost every year along the county border area, small pox would break out and the majority would die. There wasn't enough wood to make coffin so they would bury the bodies with woven reed mats and dump them on the side of the road. He distributed the corvee laborers to find the dead persons relatives and promise they would be buried. If an entire household perished, he used his own salary to perform a funeral and thereby help maintain order.[19)]

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[18] *Shongshu* vol. 91, Biographies vol.51, "范叔孫，吳郡錢唐人也。少而仁厚，周窮濟急。同里范法先父母兄弟七人，同時疫死，唯餘法先，病又危篤，喪屍經月不收. 叔孫悉備棺器，親爲殯埋. 又同里施淵夫疾病，父母死不殯；又同里范苗父子並亡；又同里危敬宗家口六人俱得病，二人喪沒，親鄰畏遠，莫敢營視。叔孫並殯葬，躬恤病者，並皆得全。鄉曲貴其義行，莫有呼其名者。世祖孝建初，除竟陵王國中軍將軍，不就."

In the case of C-① and Wu Kui, an epidemic killed a total of 13 close family members including his parents and his brother's family. Wu also fell ill to the same disease and since he was to perform funeral rites for his parents and brothers' family, the neighboring villagers covered the bodies and buried the outside the village. Even though the sole survivors of the Wu household-- Wu Kui and his wife —were extremely impoverished, they were hard day and night and within a year, they were able to build coffins, build proper tombs, and observe the proper funeral rights for his deceased family. The description that after he recovered, the only thing remaining to him was the four walls of his house suggested that households afflicted by the epidemic were even plundered. Wu Kui's moving story described him as a filial and virtuous son. It shows that most of the people who died from these epidemics as in the case of Wu's household were not able to receive proper burials.

C-② is the tale of Fan Shusun of Wu county in Qiantang and his actions at a village ravaged by disease. His neighbor Fan Faxian's household lost all at once seven family members, including his parents and brother's family. The sole survivor Faxian also became gravely ill, so Fan Shusun buried the dead family member and nursed Fan Faxian

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19) *Liangshu* vol.52, Biographies vol.46, "顧憲之, 字士思, 吳郡吳人也…齊高帝卽位, 除衡陽內史. 先是, 郡境連歲疾疫, 死者太半, 棺木尤貴, 悉裹以葦席, 棄之路傍. 憲之下車, 分告屬縣, 求其親黨,, 悉令殯葬. 其家人絶滅者, 憲之爲出公祿, 使綱紀營護之."

back to health. Fan Shusun also buried the parents of Shi Yuan-fu, who was also unable bury his parents because of illness. In addition, he helped the Wei Jingzong household where all six 6 people caught the epidemic and two people already died. No one wanted to take care of the remaining four such that they were on the verge of starvation so he nursed them back to health and saved their lives. He was renowned for his actions. The above account shows how the power of those diseases could destroy whole families and how those who survived would abandon the dead and the dying. Looking at the date in the early Song Xia Wudi (孝武帝) reign, the epidemic experience by Fan Shusun took place in or before 457 CE.

The account C-③ tells the story of Gu Xianzhi, the grandson of the famed painter and calligrapher Gu Kaizhi (顧愷之: 344 ~ 406?). Gu Xianzhi became an official of Hengyang around the time when the Emperor Gao of the Southern Ji dynasty took the throne. Upon assuming his position there was a raging epidemic, and dead bodies covered with woven reeds lined the sides of the road. He took it upon himself to use his own salary to give these bodies proper burials, and have the relatives perform proper burial rites. The reason why this story has been recorded in particular is during the early Southern Ji period, the practice of burying disease victims in coffins was not established and Gu Xianzhi independently decided to do so. This action was praised as being virtuous rule and probably recorded in particular for this reason.

All three tales tell of the existence of terrifying epidemics that devastated entire families. It is likely that these accounts were describing new types of epidemics. If such a disease could wipe out an entire household, it means that most of those people had not come in contact with it before and the fatality rate was high. However, in one family only two people died out of six who were sick, whereas in another household, everyone who fell ill ended up perishing. Perhaps there is a correlation to the Han Chinese blood. Namely, it is likely that the degree to which the Han bloodline was diluted can be reflected in the respective morbidity or fatality rates. Through this process, the Southern Dynasties people, regardless of being aboriginal or Han Chinese, would gradually develop immune systems that would enable them to survive in potential disease ares.

Among the Southern Dynasty epidemic cases, the most severe occurred when Emperor Liang Wudi (梁武帝) was besieged at Jiankang cheng Fortress (建康城), the capital of Liang for five months until the 3rdmonthof549 CE after General Houjing (候景) defected from Eastern Wei (東魏) and led an insurrection. Let us examine the Zizhi Tongjian (資治通鑑) which vividly describes the tragic horrors. According to the record, when the siege began, they had some 100,000 people, 20,000 soldiers, and 400,000 shi (石) of grain and money and dry goods. However, as the siege became extended, an epidemic broke out within the fortress. They failed to prepare fuel and daily necessities. They overcame the lack of fuel by tearing down the castle doors and buildings and burning them. But it was not so easy to overcome the lack of vitamins and minerals. People would boil their armor and eat it. It was said people captured and ate rodents, sparrows, horses, and even people.20) However, the people who ate human flesh all caught the epidemic. The symptoms were boils would start suddenly appear on the body and the fatality rate was 80-90%. Less than 4000 people were able to leave the castle and they were all coughing badly. The streets were lined with so many bodies it was impossible to bury them, and so much pus was flowing between the bodies it could stop a stream. Everyone wished to go outside help and many generals urged him to go out and fight, but it is said that Liu Zhongli (劉仲禮) just laid with his concubines, played music, and drank wine.[21]

Looking at the records that survive today, the health epidemic which broke out in 549 was probably worsened by the vitamin and mineral deficiency. However, considering the spread of the epidemic and the mortality rate of 80-90%, it does not seem likely that the disease was flaccidity of lower limbs (脚氣). The symptoms described of boils suddenly breaking out on the body and coughing sound very similar to the Black Death of the European Middle Ages.

Could it have been the Plague that was spreading during this period? Western scholars such as William McNeil have pointed to the

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20) *Zizhi Tongjian* vol.162, Chronicle of Liang vol.18, “高祖武皇帝太淸三年條, “二月己丑, 引兵來至. 初, 台城之閉也, 公卿以食爲念, 男女貴賤並出負米, 得四十萬斛, 收諸府藏錢帛五十萬億, 並聚德陽堂, 而不備薪芻、魚鹽. 至是, 壞尙書省爲薪. 撤薦坐刀以飼馬。薦盡又食以飯。軍士無□, 或煮鎧熏鼠、捕雀而食之. 御甘露廚有乾苔, 味酸鹹, 分給戰士. 軍人屠馬於殿省間, 雜以人肉, 食者必病.”

21) *op. cit.*, “高祖武皇帝太淸三年條, “三月丙辰朔, 初, 閉城之日, 男女十餘萬, 擐甲者二萬餘人；被圍旣久, 人多身腫氣急, 死者什八九. 乘城者不滿四千人, 率皆羸喘. 橫屍滿路, 不可瘞埋, 爛汁滿溝, 而衆心猶望外援. 柳仲禮唯聚妓妾, 置酒作樂, 諸將日往請戰, 仲禮不許.”

6th and 7th centuries as the initial spread of the Plague in China. However, because this was not explored in greater details, it has not really caught the attention of Chinese scholars. Nonetheless, if one examines Sui China's definitive medical work Zhubing yuanhou lun (諸病源候論) compiled in 610 CE, there is a passage describing an illness very similar to the modern plague.

> D- Biaoju (熛疽)'s symptoms are small black spots which appear on the skin. The smaller spots are the size of a grain or bean, and the larger ones are the size of a plum or apricot. Some are red, some are black, and some are blue or white. It appears to have a 'seed' as if the dry pain extends inwards. It mainly appears on the body, and if it appears on the fingers, it feels as if the finger has been cut off. Without exception everyone begs to remove the finger. If it is not treated quickly, the poison circulates into the intestines and the person dies. If a Southern person catches this disease, they cut off all their fingers because they fear the poison spreading to their inner organs.22)

A disease that causes the skin tips to turn black such that fingers must be severed sounds like an outbreak of the plague. It has been confirmed that strains of the plague bacillus existed in the Himalaya Mountains in the pre-Calendar Era. Presently, plague bacillus has been found in Southeast Asian rodents. The skin plague breaks out when

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22) *Zhubing yuanhoulun* vol.33, "熛疽候: 熛疽之狀, 肉生小黯點, 小者如粟豆, 大者如梅李, 或赤或黑, 乍青乍白, 有實核, 燥痛應心. 或著身體. 其著手指者, 似代指, 人不別者, 呼爲代指. 不急治, 毒逐脉上, 入臟則殺人. 南方人,得此疾, 皆截去指, 恐其毒上攻臟故也."

the plague bacillus enters through infected skin organisms. Rice farmers occasionally show these symptoms. The pestilence experienced by the Southern Dynasties is considered to have sprung from Biaoju (瘭疽) plague. In the *Zhubing yuanhoulun* since it was understood that the bubonic plague and the skin plague sprang from the same origins, they were classified under the same category.

Furthermore, in the *Liujuanzi guiyoufang* (劉涓子鬼有方), there is an account of Song Wudi's Northern expedition that tells of the treatment of tumors Zhongqi (腫氣) outbreak which sounds like the symptoms of bubonic plague.[23] Like the above-mentioned, the record tells of various types of boils breaking out all over. The author writes: "Boils developing in the thigh-genital area are known as red tumor (Chishiju 赤施疽). If it is not treated quickly, the person dies within 6 days. Boils on both inner thighs must also be treated quickly or the person again dies within 6 days."[24] This is very similar to a modern medical symptom of a plague occurrence.

In addition, in 588 CE around the fall of the Jin—the final Southern Dynasty, it is written "In the fourth month summer, wushen (戊申) day, countless swarms of mice entered the banks of Caizhou (蔡洲) via stones and crossed the Huei River (淮水), touching upon both banks of the Qingtang (青塘). Within a few days they all died by themselves and their bodies floated in the rivers, riding the waves."[25] The areas

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[23] *Liujuanzi guiyoufang* vol.4, "時從宋武北征, 有被瘡者, 以藥塗之卽愈."

[24] *Ibid.*, "發於股陰, 名曰赤施疽, 不急治, 六日死. 在兩股之內, 不治六日死."

[25] *Nanshi* vol.5, *Chronicles of the Ji* vol.5, "廢帝 … 禎明二年夏四月戊申, 有群鼠無數, 自蔡洲岸, 入石頭, 渡淮至於青塘兩岸, 數日自死, 隨流出江."

Huei Rriver is the modern-day Runan (汝南) region. The fact that the swarms of mice came along the riverside and all died by themselves afterwards probably means this region's mice were infected by the plague. They had fever, causing them to instinctively turn toward the water, and they perished shortly after. This record has symbolic meaning as the Ching Dynasty wiped out Jin through Sui. I thought that the outbreaks of plague in the Southern Dynasties need to be considered more positively. In the study of Chinese diseases, except for the present author, no one yet has focused on skin plagues. However, except for the account of the horrible epidemic outbreak at Jiankang cheng in 549 CE, there is not that much evidence to study ; this area should be studied in greater detail.

There were a total of 6 outbreaks in the Liang Dynasty, with relatively high mortality rates. Repeated occurrences of even the most virulent diseases leads to the development of anti bodies in humans. Like malaria antibodies, people pass on to descendants their exposure to the plague genetically. In the case of plagues with lasting immunity, successive outbreaks within given area's population every five to ten years naturally leads to the epidemic becoming a pediatric infectious disease that only afflicts children. In the process of adapting to the Southern China's tropical climate and the various indigenous plagues, the Han Chinese immigrants suffered countless casualties, and the adaptation process was manifested in the Southern Dynasties' epidemic outbreaks.

5. The Authorities' Strategies

As countless people succumbed to these epidemics, how did the ruling class respond? During the Northern and Southern Dynasties, the first thing to notice is their efforts to respond with medical measures. In particular, the Emperor provided medical supplies to the victims. We should look at the following passage.

> E-① (In 470 CE) Spring, first month, since there was a great famine in country side, a royal edict was declared to open the warehouses 倉 and make relief. ··· the third month Bingxu (丙戌) day, a royal edict was declared to dispatch doctors to sick areas, conduct examinations at the sick people's homes, and supply needed medicines.[26]
> ② In the rewu (壬午) day of fifhth month of 427 CE, Wang Hua died. The epidemic broke out in the Capital. In ziawu (甲午) day, an envoy was sent to his family and medicines were supplied. If the deceased had no coffin, it was given (by government).[27]
> ③ In 447 CE an epidemic broke out in the Capital. After a thorough examination, medical supplies were distributed.[28]
> ④ In 457 CE the fourth month in summer, the epidemic broke out in the Capital. The Bingshen (丙申) day, an envoy was sent to examine the situation and medical supplies were distributed (to the patient); the deceased who had no one to look after their bodies were placed in coffins

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26) *Beishi* vol.2, "皇興四年春正月, 州鎭大饑, 詔開倉振恤。... 三月丙戌, 詔天下人病者, 所在官司遣醫就家診視, 所須藥任醫所量給之"

27) *Songshu* vol.5, "(元嘉)四年五月壬午, 中護軍王華卒. 京師疾疫. 甲午遣使存問, 給醫藥；死者若無家屬, 賜以棺器"

28) *Nanshi* vol.2, "(元嘉)二十四年, ... 六月都下疫癘, 使巡省給醫藥,"

and prepared for burial (by government official).29)

⑤ In the fourth month of 460 CE, an Epidemic broke out in Capital. Xinyou 辛酉 day, a royal edict was declared that an epidemic has broken out since the climate lost its harmony. People are hurt, worried and miserable. An envoy is being sent to study the situation and supply medicines. Take care of the deceased and provide relief."30)

Record E shows that when mass deaths occurred due to an epidemic, the rulers would dispatch doctors and distribute medicals supplies, and also make burial arranges for families that were completely wiped out by the disease. In E-④ the phrase "timely reief" (隨宜恤贍) can be taken to mean the practice of burying epidemic victims in coffins. However, it does not appear that everyone received these benefits. It is likely that these measures were mainly implemented in the areas closer to the capital, and those who benefitted were mainly certain classes and government officials. Even in normal times, those who were able to observe proper burial practices were limited to the ruling class. In addition, most of the recorded instances of epidemics happened in or around the capital, since the population was more concentrated in those areas, make the probability of an epidemic higher and the impact greater. It is unknown as to what type of medicines and medical supplies were provided and whether or not they had any effect. Nonetheless, the

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29) *Shongshu* vol.6, "(孝武帝)大明元年夏四月, 京邑疾疫. 丙申, 遣使按行, 賜給醫藥, 死而無收斂者, 官爲斂埋"

30) *Ibid.*, "大明四年四月, 京邑疾疫. ... 辛酉, 詔曰：「都邑節氣未調, 疫癘猶衆, 言念民瘼, 情有矜傷。可遣使存問, 並給醫藥；其死亡者, 隨宜恤贍」"

Emperor’s distribution of medicines during epidemic outbreaks was a new development in the Qin Han(秦漢) period.

Of course, at the same time religious approaches were pursued. For example, in the sixth month of 546 CE, the Emperor’s daughter Princess Yongxing (永興公主) of Liang dynasty caught the plague and became critically ill, so the father Emperor declared an edict of amnesty for the prisoner to decrease resentment of victim that might the cause of the epidemic in their thought.31) When the epidemic was severe in the Capital, the buddhist monk hold special ceremonies in the palace for saving princess as well as the people.32) These are typical response of Authority in those days. Also, in 590 CE when the epidemic brokeout in the Capital Changan(長安), Emperor Wendi of Sui(隋文帝) called the Buddhist monk Xu Xiaoke(徐孝克) to lecture on Buddhist Sutra at the Prime minister office, but the historical records tell us more about the medical steps which were taken.

The above Record E describes the measures undertaken in response to the plague as a result of royal decree. However, as time passed some there is a record of a local provincial Cishi(刺史) to tried to directly deal with the plague, as can be seen the following records. During the Sui Dynasty in the Provincial of Minzhou(岷州刺史, Minzhou is modern-day Dingxi定西市 of Gansu甘肅省), an epidemic broke out and Shen Gongyi(申公義) set up hospital beds at the

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31) *Nanshi* vol.7, “中大通元年 ... 六月壬午, 以永興公主疾篤, 故大赦, 公主志也. 是月都下疫甚, 帝於重雲殿爲百姓設救苦齋, 以身爲禱.”

32) Chenshu vol.26 Biographies *v*ol.20 徐孝克, “ 開皇十年, 長安疾疫, 隋文帝聞其名行, 召令於尙書都堂, 講金剛般若經.”

government office to take of the people and change the practice of plague victims being abandoned by their families.[33] In the end, he was mobilized to Shanhai Pass (山海關) for the Sui Emperor's Goguryeo expedition in 598. There, he died at the age of 62 from an epidemic which killed nine out of ten people.[34] In Minzhou, however, he used all of his salary to buy medicines direct from the market and treat them while also providing food. In pre-modern society, malnutrition played a big role in the spread of plagues, and better one ate, the better the chance for survival. Does the fact that Shen Gongyi set up hundreds of beds at the government office for the plague victims and took care of them mean that he knew the epidemic of Minzhou did not have a high fatality rate? If this epidemic was like smallpox or the plague, his actions would not have been brave and benevolent but rather reckless and dangerous to the people. The fact that he was able to buy medicine from the market and provide treatment suggests that over time, they were able to differentiate between fatal and non-fatal cases. In other words, as the Northern and Southern Dynasties period passed into the Sui Dynasty, their understanding of epidemics was growing deeper and they were developing medical treatments. The foundation for this was the strength of the central government officials focusing on the Northern Dynasty Emperor.

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[33] *Suishu* vol.73, Biographies vol.38, "辛公義隴西狄道人也. ... 開皇七年 ... 以功除岷州刺史. 土俗畏病, 若一人有疾, 卽合家避之. 父子夫妻, 不相看, 養孝義道絶. 由是, 病者多死. 公義患之, 欲變其俗, 因分遣官, 人巡檢部內. 凡有疾病, 皆以牀輿, 來安置聽事. 暑月疫時, 病人或至數百, 廳廊悉滿, 公義親設一榻, 獨坐其間, 終日連夕, 對之理事, 所得秩俸, 盡用市藥, 爲迎醫療之,躬勸其飮食, 於是悉差, 方召其親戚而諭之曰, 死生由命, 不關相着前, 汝弃之所以死耳. 今我聚病者, 坐臥其間, 若言相染, 那得不死病, 兒復差, 汝等勿復信之. 諸病家子孫, 慙謝而去. 後人有遇病者, 爭就使君, 其家無親屬, 因留養之, 始相慈愛, 此風遂革, 合境之內, 呼爲慈母."

[34] *Ibid.*, "未幾, 起爲司隸大夫檢校右禦衛武賁郎將, 從征至柳城郡, 卒時年六十二."

The second noteworthy aspect is that during the Northern and Southern Dynasties period, the government medical system was well-organized. However, it should be noted that in Northern Ji (北齊), each three administrations (三省) had their own doctor in their offices. This can be viewed as a kind of medical insurance for high-ranking government officials. This is because each doctor was responsible for the medical treatment of the local government officials. Also, in the Northern Zhou dynasty (北周) there was a doctor responsible for tumor (腫氣), who was given the special title of yangyi (瘍醫). We cannot be sure of the type of tumor; nonetheless, it is clear that during the Northern and Southern Dynasties period and particularly the Northern Zhou dynasty, the tumor was an important social topic. Furthermore, we can tell that as time passed, the number of government medical officials gradually increased. This type of government medical system positively shows that through these government medical officials, the nation was moving toward a centralized medical administrative system.

The salient point, however, is that in the case of the Northern Qi Dynasty, there was a doctor in each of the cities of the three provinces. This strategy can be seen as a form of insurance for the ruling elites – that is, the doctor served as the personal physician to high-ranking officials, attending to their immediate needs. A notable development in the Northern Zhou dynasty was the creation of a wholly new class of specialist known as yangyi, who treated tumors. Although we cannot know for certain what kind of tumors they were, we do know that they were a particular cause for concern in the Northern Zhou dynasty. Over time, the number of doctors per capita gradually increased, and the practice and administration of medicine became standardized and centralized. Then the number of medical texts or compilations increased. This was a period of massive upheaval for the populations of the Northern and Southern Dynasties. Buffeted by exposure to new diseases and frequent outbreaks, the population most likely declined steadily over time. Finding effective treatment regimens was both a grassroots effort and a priority for governments, resulting in the publication of a wide variety of texts. In my opinion two classic texts published in 610 of the Sui Dynasty, *Zhubing yuanhoulun* (諸病源候論 Theory and Symptom of Various Diseases) and *Sihaileijufang* (四海類聚方 Collection of the Prescriptions in Whole China), were a natural outgrowth of the medical texts published in the Northern and Southern Dynasties. The former, especially, was one of the most authoritative medical texts of ancient East Asia, one that is frequently cited in Isimpo(醫心方Heart of Medicine), the 30-volume Japanese classic of medical theory and prescriptions published in 984. Zhubing yuanhoulun was a seminal work because in naming diseases and describing their symptoms, it laid the groundwork for a classification system for diseases that was universal and compatible throughout East Asia.

However, most of the medical texts of the Northern Dynasties were, by imperial edict, different. While this is an area for further research, it seems that the rulers of the Northern Dynasties actively devoted more resources to medical research and treatment than did the Southern Dynasties. As populations were felled by disease, rulers sought life-saving measures not out of moral duty or a philosophy of rule by virtue, but out of a vested interested in keeping tax rolls as high as possible. From this perspective, the North must be considered the ultimate victor in the long running rivalry between North and South, as seen in the emergence of the Northern-based Sui Dynasty. The success with which rulers were able to reduce mortality rates was surely an important factor behind the North’s dominance.

Conclusion

The Northern and Southern Dynasties of China were characterized by their frigid, even sub-arctic climate. Nomadic tribes seeking to escape the harsh conditions of the steppes moved south for more hospitable climes. But this mass migration inevitably resulted in conflicts with aboriginal tribes. Tribes originally from the north eventually settled in temperate zones, while tribes indigenous to the temperate regions were forced to move to sub-tropical regions. Such large-scale migration patterns and resettlements were directly related to the high frequency of infectious disease outbreaks reported during this period.

This paper sought to illustrate the nature of this relationship by examining selected epidemics in detail. The Xianbei tribes originating from the north were primarily afflicted by anthropozoonoses. These diseases spread to the indigenous populace and even to elk in the southern regions to which they migrated. The ruling classes of the Han population who repopulated farther south were themselves to realize that the process of acclimatizing to a new environment meant the same as adapting to the pathogens and infectious diseases of that environment.

Over time, however, the interval between outbreaks grew increasingly longer, suggesting that the pathogen and human populations were inching toward a more symbiotic relationship. Rulers battled these frequent outbreaks by distributing drugs, training physicians and systemizing treatment regimes. These efforts spurred the establishment of a new class of government officials − scholar-physicians − and the compilation of medical anthologies. Finding medical treatments to combat the halt of the diseases was a high priority for rulers and emerging governments.

In fact, the development of the medical profession and a monopoly on drugs and treatments reinforced the prevailing patriarchial ideology. The epidemics that broke out in the Northern Wei, Jin, Northern and Southern Dynasties engendered a competition over which governments could battle them most effectively. Though both North and South suffered heavily, the Northern Dynasties emerge as the superior power. Successive outbreaks crippled efforts to unify the Southern Dynasties, but in the North, they became a rallying force for rulers who

established hegemony. The epidemics also drove the development of medicine as a systematized practice and profession – and China became the center of medicine in pre-modern East Asia.

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References

1. Primary Sources

Beiji Qian jin Yao fang (備急千金要方)
Beishi (北史)
Liangshu (梁書)
Nanshi (南史)
Songshu (宋書)
Shang Han Lun (傷寒論)
Suishu (隋書)
Zhohou Beiji fang (肘後備急方)
Zhubing Yuan Houlun (諸病源候論)
Zizhi Tongjan (資治通鑑)
(Most of the Chinese texts are cited from online resources.)
Dong-I Bogam translated in Korean (國譯東醫寶鑑) vol.4, foot(足部), Seoul:Pupin Munwhasa, 1999.

2. Secondary Sources

Deng Tietao et al., Zhongguo Fangyishi (中國防疫史, History of the Epidemic in China), Nanning: Guangxi Kexuejishu Chubanshe(广西科學技術出版社), 2006, p.35.

Fujikawa Yu (富士川游), Nihon igaku shi (日本醫學史, History of Japanese Disease), Tokyo:Showkabau 賞花坊 1904.

Hyunsook Lee, SillaIhaksa Yeonku(新羅醫學史研究, A Research of Silla Medicine), Ph.D Dissertation of Ewha womans University, 2002.

Hyunsook Lee, “Mom, Jilbyung, Kyunryeok: Chilsegi Silla Tongil Zeonjaengki Kunjin Ihak(Body, Disease and Power: Military Medicine in the 7th century of the Silla Unification War)”, Yeoksawa Munwha(History and Culture) vol.6, Seoul: Pureun Yoeksa, 2003.

Hyunsook Lee, “High Fever Epidemic, guzhengbing(骨蒸病) in Early Tang dynasty (唐高祖代骨蒸病的 流行)”, proceeding paper in 2005 Autumn Conference of Chinese History Society in Korea.

Hyunsook Lee, “Environment, Epidemic and Power(環境, 疫病, 權力:中國南北朝時代疫病的流行)”, proceeding paper in 2007 Winter Conference of Chinese History Society in Korea.

Jingwei Li (李經緯), Zhaogeng Lin (林昭庚) et al., Zhongguo yixue tongshi (中國醫學通史), Beijing: Renmin weisheng Chubanshe (人民衛生出版社), 2000

Mark Elvin, The Retreat of Elephants, New Heaven: Yale University Press, 2006.

Sungwu Lee, Godae Hanguk Silksaengwhalsa Yeonku(古代韓國食生活史硏究, a Research of Food life in Ancient Korea), Seoul: Hyangmunsa,1992.

William Hardy McNeil, Plagues and Peoples, Garden City, NY: Anchor Press/Doubleday, 1976.

William Wayne Farris, Population, Disease, and Land in Early Japan, 645-900, Harvard University Asia Center, 1995.

3. Internet Sources

24 Chinese Historical Texts (http://www.sidneyluo.net)
Ancient Chinese Medical Texts (http://www.theqi.com/cmed/oldbook/index.html)
Baidu.com
Korea Institute of Oriental Medicine(http://www.kiom.re.kr)

Abstract

Environment, Epidemics and Power in Early Medieval China

– Epidemics and Authority's strategies in the Northern and Southern Dynasties of Early Medieval China –

Hyunsook Lee

This paper aims to scrutinize the epidemics which brokeout in the Northern and Southern Dynasties of Early Medieval China, for solving the Korean Ancient epidemic enigma. The ancient epidemic of Korea mostly came from China, specifically the eruptive epidemics – measles and small pox. From the research, I realized that the climates change of the Early Han Dynasty brought mass migration of the Northern barbarian tribes and it derived so many wars between the tribes and Chinese Han. Chinese Han exiled near the Yangze River and they established the Southern Dynasties. Not any of The Northern and the Southern Dynasties lasted long as many as the former dynasty, like Han. One of the main causes was epidemics in the Northern and Southern regions. The Northern barbarian and the Chinese Han people not only encountered so many new virus and bacteria in their new territories but they also conveyed their own endemic diseases to the indigenous people. The wars of two dynasties made the situation worse, and the population as well as the production decreased. That's why China had divided for almost 350 years ever since Han Empire was collapsed, the longest division in its history. It seems like that the first domino was the environmental changes and it made chain reactions such as mass migration, war and epidemic. The authorities tried to cope with new diseases which massacred the subjects and they developed medicine as well as medical system.

Key Words : environmental change, epidemic, endemic disease, small pox, northern and southern dynasties, early medieval China